

Message Text

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ACTION OES-09

INFO OCT-01 EUR-12 ISO-00 NSC-05 DODE-00 L-03 CIAE-00

SMS-02 /032 W

-----036430 012119Z /66

R 012028Z AUG 78

FM AMEMBASSY MOSCOW

TO SECSTATE WASHDC 5014

NASA WASHDC

UNCLAS SECTION 01 OF 02 MOSCOW 18057

NASA FOR IFFT

E.O. 11652: N/A

TAGS: TSPA, UR, US

SUBJECT: US-USSR SPACE AGREEMENT: SPACE BIOLOGY AND
MEDICINE: (04.05-02) K206 EXPERIMENT

REF: STATE 159125

1. EMBASSY JULY 27 RECEIVED LETTER FROM N. N.
GUROVSKY OF THE MINISTRY OF HEALTH TO DR. D.
WINTER IN RESPONSE TO WINTER LETTER
(REFTEL). AS REQUESTED REFTTEL EMBASSY IS PROVIDING
INFORMAL TRANSLATION PARA 2 BELOW. ORIGINAL LETTER
AND ENCLOSED TABLES POUCHED NASA FOR IFFT REGISTRY
NO. 1911870.

2. DEAR DR. WINTER:

FIRST OF ALL I WOULD LIKE TO THANK THE AMERICAN
SPECIALISTS FOR THE EXPOSURE OF SOVIET NUCLEAR
EMULSIONS AND PLASTICS, CONDUCTED IN BERKELEY IN THE
FRAMEWORK OF THE JOINT WORK IN THE K206 EXPERIMENT.

IN ANSWER TO YOUR TELEX OF 22 JULY (SIC) I WOULD LIKE
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TO REPORT THE FOLLOWING:

1) A) EMULSION CHAMBER A, SENT YOU IN JULY 1977, CONTAINS
A 20 LAYER EMULSION OF TYPE PR-2 (THICKNESS OF A
LAYER-215 MKM (MICROMETER), SIZE - 10 CM X 10 CM);
B) EMULSION CHAMBERS 1 AND 2, SENT YOU IN MARCH 1978,
CONTAINED 35 LAYER EMULSIONS OF TYPE BR2

(THICKNESS - 490 MKM, SIZE 10 CM X 10 CM, SENSITIVITY TO RELATIVISTIC PARTICLES - 30 GRAINS PER 100 MKM)
C) EMULSION CHAMBERS 3 AND 4, SENT YOU IN APRIL 1978, CONTAINED 30 LAYER EMULSIONS OF TYPE BR-2 (CHARACTERISTICS ANALGOUS TO THOSE IN 1.B).

D) BLOCKS OF PLASTIC DETECTORS 9 - 12, SENT YOU IN APRIL 1978, CONTAINED

- BLOCKS 9 AND 10 - 100 LAYERS OF NITRATES OF CELLULOSE KNTS (THICKNESS OF LAYER-800 MKM, SIZE 10 CM X 10 CM, THRESHOLD SENSITIVITY - LPE 1000 EQUALS 200 KEV/MKM)

- BLOCKS 11 AND 12 - 200 LAYERS OF LAVSAN (THICKNESS OF LAYER - 80 MKM, SIZE 5 CM X 5 CM, THRESHOLD SENSITIVITY - LPE 1000 APPROXIMATELY EQUALS 500 KEV/MKM)

2) AT THE PRESENT TIME PHOTOGRAPHIC AND CHEMICAL DEVELOPMENT OF THE NUCLEAR EMULSIONS AND PLASTICS IS BEING COMPLETED. WE WILL SEND YOU A REPORT ON THE QUALITY OF THE EXPOSURES CONDUCTED.

3) WE HOPE TO COMPLETE THE PHOTOGRAPHIC AND CHEMICAL DEVELOPMENT OF THE EXPOSED EMULSIONS AND PLASTICS IN AUGUST 1978. PART OF THE PLASTICS, EXPOSED AT THE BERKELEY ACCELERATOR, CAN BE GIVEN TO AMERICAN UNCLASSIFIED

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SPECIALISTS AT THE WORKING GROUP MEETING IN OCTOBER. I ASK YOU TO SPECIFY WITH WHICH IONS WERE EMULSION CHAMBERS 1 AND 2 IRRADIATED.

4) THE GAMMA SCANNING OF KOSMOS 936 IS COMPLETED. RESULTS OF THE MEASUREMENTS OF THE THICKNESS PERTAINING TO CONTAINER K-206 ARE ATTACHED.

5) EMULSION CHAMBER A, EXPOSED IN BERKELEY WITH IONS OF CARBON AND NEON AND SENT TO YOU IN SEPTEMBER 1977, WERE LESS SENSITIVE THAN WE CALCULATED; THIS WILL NOT ALLOW US TO DEFINE THE COMPLETE CHARACTERISTICS OF THE INTERACTION OF THE PHOTOEMULSIONS WITH THE NUCLEI; IN PARTICULAR IT WAS IMPOSSIBLE TO REGISTER THE HIGH ENERGY SINGLELOAD SECONDARY PARTICLES.

6) WE AS PREVIOUSLY ARE INTERESTED IN JOINT PUBLICATIONS, ABOUT WHICH AGREEMENT WAS REACHED IN AUGUST 1977, WITH THE EXCEPTION OF THE ARTICLE ON FLUX AND SPECTRA OF NEUTRONS. WITH RESPECT TO THE NEUTRONS WE COULD ONLY EVALUATE THE HIGHEST VALUES OF THE FLUX DUE TO THE SENSITIVITY OF THE DETECTORS.

WE HOPE TO PREPARE MATERIALS FOR JOINT PUBLICATIONS
FOR THE WORKING GROUP MEETING.

7) WE ARE VERY INTERESTED IN THE PREPARATION OF
A JOINT PUBLICATION ON NUCLEUS-NUCLEUS INTERACTIONS
AS MEASURED IN EMULSION CHAMBERS EXPOSED IN BERKELEY.

8) A GRADUATED CURVE FOR THE MEASUREMENTS OF THE
SPECTRA LPE WITH THE HELP OF EMULSIONS IS ATTACHED.
THE CURVE WAS OBTAINED BY EXPOSING AN EMULSION OF

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TYPE PR-2 WITH PROTONS WITH ENERGIES OF 55,73, 92,
185, 645 MEV, WITH ALPHA PARTICLES FROM PLUTONIUM
239, WITH CARBON IONS WITH ENERGIES OF 9.1, 77, AND
200 MEV/NUCLEON, WITH NEON IONS WITH ENERGIES OF
9.1, 200, 400, AND 475 MEV/NUCLEON.

9) WE REPORT ALSO DATA ON SEVERAL MEASUREMENTS IN THE
K-206 EXPERIMENT. THE OVERALL DOSE FOR THE FLIGHT,
MEASURED WITH THE AID OF THERMO LUMINESCENT DOSIMETERS
CONSISTS OF 520 - 680 MRAD DEPENDING ON THE LOCATION
OF THE DETECTORS. ON PLANE A 5 OF THE SOVIET PART
(25) THE DOSE IS 680 PLUS OR MINUS 45 MRAD, ON PLANE
A6 - 570 PLUS OR MINUS 60 MRAD. THE FLUENCE OF
PARTICLES WITH LPE 350 GREATER THAN OR EQUAL TO
200 KEV/MKM IS 2.9 - 7.6/CM2 AT VARIOUS POINTS WITHIN
THE SATELLITE.

10) IN ORDER TO PREPARE FOR THE JOINT EXPERIMENTS ON
THE BIO SATELLITE IN 1980 WE ASK THAT YOU SEND THE
REPORT: BAUM, J. H. (1975), NEUTRON FLUXES ON SKYLAB,

MARTIN MARIETTA, SUMMARY REPORT (ED-2002-1773). BEST
WISHES. N. N. GYROVSKY. TOON

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